

Part V

Hard processes in e^+e^- collisions

Introduction

In this part, we study different hard and jet processes in e^+e^- . These concern:

- one hadron inclusive production.
- $\gamma\gamma$ scatterings and the 'spin' of the photon.
- QCD jets.
- heavy quarkonia inclusive decays.
- $e^+e^- \rightarrow$ hadrons total cross-section.
- $Z \rightarrow$ hadrons inclusive decay
- $\tau \rightarrow \nu_\tau +$ hadrons semi-inclusive decays.

These processes are used as classical tests of perturbative QCD, where values of the running QCD coupling have been extracted. A pedagogical introduction to the physics of e^+e^- can be found in, for example, the book of [276]. More modern QCD phenomenology in e^+e^- can be found in different reviews and in the proceedings of the QCD-Montpellier series of conferences and many others.